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Magalie Roman Salas
Secretary
Federal Communications Commission
445 12th Street, S. W.
Washington, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY


Re: In the Matter of Implementation of the Local Competition Provisions of the
Telecommunications Act of 1996; CC Docket No. 96-98

Dear Ms. Salas:

On behalf of MCI WorldCom, Inc., enclosed please find a memorandum setting forth: (i) proposed standards for implementing the "necessary" and "impair" provisions in Section 251(d)(2); (ii) proposed language for an amended regulation addressing the application of these standards; and (iii) a discussion of the application of the proposed standards to the core network elements required to be unbundled pursuant to vacated rule 47 C.F.R section 51.319. MCI WorldCom requests that these documents be entered into the record for the above-referenced docket.

In accordance with Section 1.1206(b)(2) of the Commission's Rules, an original and one copy of this notice are being submitted to the Secretary.

Sincerely,



Bradley Shillman
Senior Policy Counsel
Strategic Advocacy

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THE “IMPAIR” AND “NECESSARY” STANDARDS IN § 251(d)(2)

The Supreme Court instructed the Federal Communications Commission (“FCC” or “Commission”) to reconsider the “impair” and “necessary” standards it applied in defining the unbundled network elements (“UNEs”) in § 51.319 of its regulations. *AT&T Corp. v. Iowa Util. Board*, No. 97-826, 1999 WL 24568 (U.S. Jan. 25, 1999) (“*AT&T v. IUB*”). This paper discusses the approach that the FCC should take in defining network elements consistent with the overall purpose of the Telecommunications Act of 1996 (the “1996 Act”) “to expedite the introduction of pervasive competition into the local telecommunications industry.” *See Iowa Util. Board v. FCC*, 120 F.3d 753, 816 (8th Cir. 1997) (“*IUB v. FCC*”), *aff’d on this ground sub nom. AT&T v. IUB*; *see id.*, 120 F.3d at 791-92.

Section 251(d)(2) provides:

In determining what network elements should be made available for purposes of subsection (c)(3) of this section, the Commission shall *consider, at a minimum, whether —*

- (A) access to such network elements as are proprietary in nature is necessary; and
- (B) the failure to provide access to such network elements would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer.

(Emphasis added.)

The Supreme Court stated that § 251(d)(2) “requires the Commission to determine on a rational basis which network elements must be made available, *taking into account the*

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objectives of the Act and giving some substance to the ‘necessary’ and ‘impair’ requirements.” *AT&T v. IUB*, 1999 WL 24568 at *11 (emphasis added). The Supreme Court did not suggest that any of the specific UNEs identified in § 51.319 would fail to satisfy a more stringent interpretation of these requirements or should otherwise not be available pursuant to § 251(c)(3), and the Court left it to the FCC to apply the new interpretation in determining whether these seven elements should continue to be available on an unbundled basis. In fact, the UNEs defined by the FCC in § 51.319, and additional UNEs defined by state commissions, do satisfy any reasonable “limiting standard” for impairment or necessity that is “rationally related to the goals of the Act.” See *AT&T v. IUB*, 1999 WL 24568 at *11.

I. DEFINING PRINCIPLES

A. The Need for National Rules

It is critical that the Commission continue to address unbundling as a national issue through national rules of general application that identify a minimum number of elements that must be made generically available on an unbundled basis. The FCC’s judgment in its initial Local Competition Order that such rules are necessary is sound and consistent with the Supreme Court’s decision. See *In re Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, First Report and Order, 11 F.C.C.R. 15499, ¶¶ 53-62 (1996) (“Local Competition Order”). Indeed, § 251(d)(2) itself contemplates that the FCC will address impairment and necessity in the context of

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adopting national rules, and the specificity of the § 271 competitive checklist makes clear that federal definition of core network elements is essential to the goal of opening local markets to competition. As explained below, an *ad hoc* approach to defining UNEs would only slow the development of local competition and spawn costly, protracted regulatory proceedings.

B. The § 251(d)(2) Factors: Consumers, Competition, and Regulation

In determining whether elements should be unbundled, the Commission must consider impairment and, with respect to proprietary network elements, necessity. These terms should be interpreted consistently with the purposes of the 1996 Act. As discussed below, these purposes include the need to open local markets to competition immediately and on a ubiquitous basis so that all classes of customers in all parts of the country can promptly enjoy the fruits of competition. To the extent that unavailability of an element under § 251(c)(3) makes it difficult for competitive local exchange carriers (“CLECs”) to fill these needs, their ability to compete is impaired, and unbundled access is necessary, within the meaning of § 251(d)(2).

But the Commission can and should consider factors other than impairment and necessity in determining which elements should be unbundled. The Supreme Court emphasized that the decision of what network elements should be unbundled must be decided by “taking into account the objectives of the Act.” *AT&T v. IUB*, 1999 WL 24568 at *11. Section 251(d)(2) merely identifies “necessary” and “impair” as two

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factors that the Commission must “consider,” without requiring the Commission to make either of them dispositive. This provision does *not* provide that an element may be made available *only if* access to a proprietary element is necessary or failure to provide access to the element would impair the ability of a carrier to provide service. Rather, if denial of access impairs the ability of new entrants to compete, incumbent local exchange carriers (“ILECs”) must provide the element on an unbundled basis, and no further factors even need be considered under § 251(d)(2). The converse, however, is not true: lack of impairment, or necessity in the case of proprietary elements, does not automatically mean that ILECs have a right to deny access. If an element does not meet the impairment or necessity standard, it still may properly be classified as a UNE if its unbundling furthers other interests identified by the Act and the Commission.

Accordingly, among the factors that the Commission should consider *in addition* to impairment and necessity are the interests of consumers, the interest in promoting the development of competitive markets, and the interest in efficient and effective regulation. The Act’s, and the Commission’s, fundamental goal is to further the interests of all consumers in low-cost, high-quality, and innovative local telephone services — a goal that can be achieved only through effective local competition. The impairment and necessity provisions consider the appropriateness of unbundling from the perspective of new entrants. But the Commission should also consider this issue from the point of view of consumers. To be sure, consumers and CLECs share a common interest in rapid

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development of effective competition, and consumer and competition interests overlap because consumers benefit when CLECs obtain unbundled access to elements that meet the impairment and (if applicable) necessity standards. In any event, an element should be unbundled if unbundling would advance consumers' interests in the prompt introduction of ubiquitous competition.

Moreover, the 1996 Act is intended to establish a "de-regulatory national policy framework." Joint Managers' Statement, H.R. Conf. Rep. 104-230, at 1 (1996). Of course, the Act also recognizes that continued regulatory oversight of incumbents is necessary because the ILEC monopolists will not willingly embrace the new competitive paradigm and competition must be given a fair chance to develop. Nonetheless, rules that avoid unnecessary regulatory involvement are preferable and better advance Congress' purpose. In this regard, FCC rules mandating the unbundling of a particular element on a national basis avoid intrusive, costly, and protracted regulatory involvement in day-to-day activities of local competitors, and they thereby further the goals of the Act and minimize the burdens on the Commission, as well as on state commissions that share responsibility for implementation of the Act. On the other hand, rules that call for impairment and necessity to be determined on a case-by-case basis would inevitably create unnecessary administrative burdens and concomitant delay.

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C. Factors Relating to Impairment and Necessity

In deciding whether the ability of CLECs to compete is “impaired,” or whether access is “necessary” with respect to proprietary network elements, within the meaning of § 251(d)(2), the FCC should consider a variety of factors:

The § 271 Checklist. In deciding whether CLECs need access to a network element, the Commission can and should consider whether the element is included in the competitive checklist in § 271(c)(2)(B) of the Act. Inclusion of an element in the competitive checklist is strong evidence that Congress believes it is critical for CLECs to have access to the element and that it is in fact important for ILECs to provide access on reasonable and nondiscriminatory terms. The § 271 checklist includes local loop transmission (item iv), transport (item v), switching (item vi), access to DA services and operator call completion services (item vii), and access to databases and associated signaling necessary for call routing and completion (item x). As the Supreme Court itself noted, the FCC has determined that access to operations support systems (“OSS”) is essential to give CLECs effective access to these checklist items. *AT&T v. IUB*, 1999 WL 24568 at *10-11 (citing Local Competition Order ¶¶ 521-522); *see In re Application of BellSouth Corp. for Provision of In-Region, InterLATA Services in Louisiana*, Memorandum Opinion and Order, CC Docket No. 98-121, FCC 98-271, ¶ 83 (rel. Oct. 13, 1998) (“Second Louisiana § 271 Order”) (“The Commission consistently has found that nondiscriminatory access to these systems, databases, and personnel is integral to the

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ability of competing carriers to enter the local exchange market and compete with the incumbent LEC.”).

The inclusion of these elements in the checklist reflects Congress’ judgment that unless and until these core items are available on reasonable and nondiscriminatory terms to CLECs, local competition cannot develop. That these items are explicitly spelled out in § 271 and not in § 251 simply reflects Congress’ conclusion that the checklist needs to be specific and concrete so that the Bell operating companies would know what they have to do to satisfy this requirement of § 271. Both §§ 251 and 271 share the same goal of opening up local markets as quickly as possible to broad-scale competition. Thus, the ability of carriers to offer local service on a reasonably level playing field in competition with BOCs would necessarily be impaired without access to each checklist item. The obligation to fully implement these requirements before BOC long distance entry underscores the urgency as well as the importance of making each of these elements available to CLECs.

Ubiquity. Driven by their own interest in spreading their construction and marketing costs across as many customers as possible and by consumer interest (in all geographic areas) in having competitive alternatives, CLECs generally seek to offer ubiquitous local service. Given this coincidence of CLEC and consumer interest, elements should be classified as UNEs if that would facilitate the ability of CLECs to provide ubiquitous service throughout a state or region. All consumers, regardless of

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their geographic location, have an interest in the benefits of competition facilitated by access to UNEs. Because of economies of scale, connectivity, and density in providing local service (discussed in more detail below), the inability to provide ubiquitous service raises the costs of CLECs to serve even a more limited group of customers and thereby undermines their ability to compete for all customers. Accordingly, the fact that in some locations CLECs may have alternate sources of an element does not mean that access to the element from the ILEC should be denied.

Classes of Customers. By the same token, the Commission should consider whether its definition of UNEs would facilitate CLECs' ability to offer service to all categories of customers — residential as well as business, and small business as well as large business. Smaller customers to which CLECs seek to offer service should be able to enjoy the fruits of competition.

Immediate Competition. In defining UNEs from the perspective of competitors as well as consumers, the Commission should also consider whether unbundling will help CLECs jumpstart local competition. "The Commission's unbundling rules facilitate the competing carriers' access to these [ILEC] networks and thus promote the Act's additional purpose — the expeditious introduction of competition into local phone markets." *IUB v. FCC*, 120 F.3d at 816; *see id.* at 811. It is not enough that CLECs may eventually be able to provide service without access to a particular UNE. The public interest requires that local competition develop quickly, and UNE-based competition may

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be essential to achieve that goal because it necessarily takes time to deploy a ubiquitous network.

Therefore, the relevant question is whether CLECs have a practical need for specific UNEs *today*. It is true that as the competitive landscape changes, as CLECs deploy their networks, and as technology changes, the degree to which unavailability of a particular UNE “impairs” CLEC service may change, or even diminish, over time. But that possibility would not justify denial of access to a UNE now. ILECs always have the right to ask the Commission to consider whether subsequent changes in technology or competitive conditions have eliminated the need for CLEC access to a particular element on an unbundled basis.

Nationwide Service. UNEs should be defined to facilitate the ability of CLECs to provide service on a nationwide basis. As the Commission has recognized, economies of scale, the interest of multi-location customers in seamless service, and predictability in business planning mean that the costs of entry will be reduced, and the benefits of entry increased, if CLECs have access to a core of the same UNEs in all parts of the country. Local Competition Order ¶ 61 (“national rules will create economies of scale for entry into multiple markets”), ¶ 242 (same). Litigating the issue in multiple states also increases the costs of entry and produces substantial delay.

Product Differentiation. UNEs should be defined to enable CLECs to differentiate their service from that of the ILECs. One of the principal goals of the 1996

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Act is to promote innovation and diversity. That goal can be achieved only if UNEs are defined in a way that permits CLECs to use them to provide new features and capabilities. Indeed, § 251(d)(2) itself focuses on the services a CLEC “seeks to offer,” not on the services that ILECs currently offer.

Economies of Scale, Scope, Connectivity, and Density. UNEs should be defined to allow CLECs to benefit from economies of scale, scope, connectivity, and density comparable to those of the ILECs with their huge customer base and ubiquitous network. Provision of telecommunications services involves substantial economies of scale, scope, connectivity, and density, and one important purpose of the unbundling provision of the 1996 Act is to permit CLECs to compete with the same economies as ILECs even in the early stages of local competition when CLEC customer bases are necessarily small and CLEC networks are necessarily limited in their reach. Local Competition Order ¶¶ 11, 232, 316, 340.

For example, a UNE is useful to a CLEC only as part of a combination of elements integrated into a network. It makes no sense to determine “impairment” without considering how the element is to be deployed within a network, and whether it can be cost-effectively deployed in light of scale, connectivity, and other economies. Access to unbundled ILEC network elements, especially when used in combination with other ILEC elements, has important efficiency implications precisely because the ILEC network is configured for relatively efficient connections between the various elements in the

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network. However, a CLEC may not be able to achieve equally efficient connectivity between elements if it connects ILEC UNEs with elements from a CLEC network because the network architecture was not configured to accommodate efficient connection by other parties. The utility of a network element from another source is limited if significant costs must be borne in order to connect that element to other ILEC elements for which alternative sources do not exist. The new entrants must be able to enjoy the same economies of connectivity embedded in the ILEC's ubiquitous network as the ILEC. UNEs and UNE combinations should therefore be available if CLECs cannot otherwise achieve the efficiencies in the ILEC network.

Minimum Regulatory Involvement. The interest explained above in reducing the need for continuing regulatory intervention and oversight by the FCC and state commissions also relates to the impairment issue. Regulatory litigation is costly for carriers as well as regulators, and it slows the development of competition, as demonstrated by the ability of the incumbents over the past three years to use blunderbuss litigation as an effective delaying tactic. The ability of CLECs to compete would be impaired if individual CLECs were forced constantly to ask regulators to resolve disputes about access to a particular UNE in a particular geographic area to serve a particular customer or group of customers.

More specifically, whether a proprietary UNE is "necessary" or whether inability to obtain a particular UNE "impairs" a CLEC's ability to compete should *not* be decided

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on a customer-by-customer or facility-by-facility basis. Such an approach would bring the development of local competition to a halt and mire the FCC and state commissions in endless disputes between CLECs and ILECs whose overriding incentive is to delay effective local competition. If CLECs need a particular UNE to reach a substantial number of customers (especially in light of the interest in ubiquitous and prompt service to all types of customers), that UNE should be available on a nationwide basis.

For the same reasons, any UNE that meets the impairment and necessity standard for any individual CLEC should be available to all CLECs on a nondiscriminatory basis. Indeed, restricting access by other CLECs would clearly violate both the nondiscrimination principle in § 251(c)(3) and the “pick and choose” requirement in § 252(i) and in the FCC’s implementing regulation upheld by the Supreme Court. *See AT&T v. IUB*, 1999 WL 24568 at *13-14. No CLEC should be required to show individual impairment or necessity with respect to any UNE that satisfies relevant § 251(d)(2) standards for any other requesting carrier. All CLECs should have equal access to all UNEs.

CLEC Independence of ILECs. In deciding whether CLECs have a genuine need for access to a particular ILEC element that they requested, the FCC should consider that CLECs have strong reasons to minimize, and indeed avoid, reliance on ILECs. As courts have recognized, “independence from the incumbent LEC” is a powerful incentive for new entrants to build their own networks. *Southwestern Bell Tel. Co. v. AT&T*

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Communications of the Southwest, Inc., No A 97-CA-132 SS, 1998 WL 657717, at *11 (W.D. Tex. Aug. 31, 1998) (“*SWBT*”). That is true even aside from the enormous practical problems that CLECs have had over the last three years in getting reasonable and nondiscriminatory access to networks elements.

No rational company would pursue a business strategy that makes it dependent on the long-term cooperation of a single dominant rival. As the Commission understands, and as experience confirms, an ILEC has both “the incentive and the ability to engage in many kinds of [non-price] discrimination. For example, [it] could potentially delay providing access to unbundled network elements, or . . . provide them to new entrants at a degraded level of quality.” Local Competition Order ¶ 307. Moreover, new entrants will want to build their own networks in order to be “first to market” with new network technologies that provide more innovative services to consumers. *See IUB v. FCC*, 120 F.3d at 816 (“the increased incentive to innovate resulting from the need of a carrier to differentiate its services and products from its competitors’ in a competitive market will override any theoretical decreased incentive to innovate resulting from the duty of a carrier to allow its competitors access to its network elements”). Also, many customers seek out new entrants as independent sources of supply to provide redundancy in case of ILEC network failure, providing added incentive for CLECs to use their own facilities wherever it is feasible.

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New entrants also have significant financial inducements to build their own networks. The FCC's pricing methodology takes "the location of an incumbent's current central offices as a given," even if an efficient new entrant would use fewer switching centers and place them more wisely. Local Competition Order ¶¶ 683-685. "[B]ecause the TELRIC methodology . . . does not assume a perfectly efficient network," new entrants have a further incentive to build their own facilities. *SWBT*, 1998 WL 657717 at *11; *see also* Local Competition Order ¶ 685. Moreover, new entrants incur many transaction costs in obtaining and paying for network elements, and they face heavy costs in attempting to monitor and prevent the non-price discrimination identified by the FCC. Examination of the marketplace readily demonstrates that, as a practical matter, CLECs will naturally avoid use of ILEC UNEs to the greatest extent possible.

II. DEFINITIONS OF "IMPAIR" AND "NECESSARY"

Consistent with these principles, the Commission should give substance to the "impair" and "necessary" standards by adopting the following definitions.

Impairment: The ability of CLECs to provide the services they seek to offer is "impaired" within the meaning of § 251(d)(2)(B) if their ability to compete without a UNE is materially diminished. Such an effect would exist if an ILEC's denial of access to an element, taking into account the availability or unavailability of the element outside the incumbent's network, either diminishes the ability of CLECs promptly to provide existing or new services to any class of customers in any geographic area, or provides a

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significant competitive advantage to the ILEC. Some non-exhaustive examples illustrate how this definition would be applied.

CLECs' ability to offer service is "impaired" if their inability to get an element from the ILEC means that as a practical matter, it would be more difficult for them to provide local services at prices that are competitive with the prevailing retail prices and that permit them to earn a reasonable return. If unavailability of a UNE merely produces a barely discernible decline in CLEC profitability, the ability of CLECs to provide service would not be materially impaired. *AT&T v. IUB*, 1999 WL 24568 at *10. But if unavailability makes it unprofitable to compete generally or for any class of customers or in any geographic area, CLECs should have unbundled access to the element.

Another example of impairment would occur if lack of access to a UNE makes CLECs unable to provide a feature or capability or a certain quality of service and thereby materially diminishes their ability to compete in the local market. If inability to obtain access to an element prevents CLECs from providing a feature of local service that customers expect from their local telephone company, they cannot provide service of comparable robustness and quality, and their ability to compete is impaired within the meaning of § 251(d)(2).

Impairment would also exist if lack of access to a UNE would materially delay CLECs' ability to provide service to any class of customers or geographic area.

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If the time needed to complete design, acquisition, construction, and testing of new facilities would impair CLECs' ability to compete effectively with an ILEC for any class of customers or in any geographic area, CLECs must be able to lease UNEs to avoid the delay and enable the prompt initiation of ubiquitous service.

In making these judgments, the Commission should consider several factors. One factor is whether an element is currently available in commercially reasonable and sufficient quantity from at least one other source. Availability from more than two sources is generally important to ensure reasonable price, quality, and availability of an element.

Even if a particular facility or equipment can be obtained on a stand-alone basis from sources other than the ILEC, it may be impractical or uneconomic for a CLEC to use that facility or equipment to serve a group of customers or geographic areas because of its inability to achieve economies of scale or for other reasons. For example, the availability or price of collocation space, both of which are under control of the incumbent LEC, may prevent CLECs from cost-effectively serving customers in some locations even if CLECs can readily obtain the equipment that would be collocated. Similarly, the existence of a vibrant competitive market for the copper wire used for loops would not mean that CLECs are not impaired if they are denied unbundled access to an ILEC's loop plant. In evaluating whether it is economically viable for CLECs to offer service if they cannot obtain an element from the ILEC, the Commission should consider

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how obtaining the element from alternate sources would affect the total cost of constructing and operating a network, and not focus solely on the stand-alone cost of the element without considering other costs that CLECs may be forced to incur if unbundled access to the element were denied.

Another relevant factor is the relative cost and quality of the ILEC's element and the element purchased from another source. For example, if CLECs pay 5 percent more than the ILEC pays for an element that comprises a significant part of CLECs' total cost of doing business, such a significant cost difference would put CLECs at a significant competitive disadvantage and undermine CLECs' ability to compete profitably without access to the element from the ILEC at cost-based rates. Similarly, if CLECs cannot otherwise obtain an element whose quality is equivalent to the ILEC's, the failure to get access to the ILEC's element "impairs" CLECs' ability to compete on reasonably equal terms.

This definition of impairment is fully consistent with judicial decisions interpreting the term "impair" in statutes. Courts frequently apply the standard legal dictionary definition as "[t]o weaken, to make worse, to lessen in power, diminish, or relax, or otherwise affect in an injurious manner." *Humana Inc. v. Forsyth*, 119 S. Ct. 710, 717 (1999) (quoting Black's Law Dictionary 752 (6th ed. 1990)); *see id.* ("to 'impair' a law is to hinder its operation or 'frustrate [a] goal' of that law"); *In re Henderson*, 18 F.3d 1305, 1310-11 (5th Cir. 1994); *Pure Waters Inc. v. Michigan Dep't*

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of Natural Resources, 883 F. Supp. 199, 205-06 (E.D. Mich. 1995), *aff'd*, 82 F.3d 418 (6th Cir. 1996); *see Runnebaum v. NationsBank of Maryland*, 123 F.3d 156, 168 (4th Cir. 1997) (quoting standard dictionary definitions, such as to “make worse by or as if by diminishing in some material respect,” and “a decrease in strength, value, amount, or quality”) (internal quotations omitted); *In re Barakat*, 99 F.3d 1520, 1527 (9th Cir. 1996) (claims under bankruptcy plan are “impaired” if creditor’s rights are in any way altered). The term “impair” is generally read to mean something less than total destruction or disability of the object at issue. *See, e.g., Humana*, 119 S. Ct. at 716 (declining to define “impair” as synonymous with invalidate, supersede, or displace); *Energy Reserves Group, Inc. v. Kansas Power and Light Co.*, 459 U.S. 400, 411 (1983) (“[t]otal destruction of contractual expectations is not necessary for a finding of substantial impairment” under the Contracts Clause); *Ross v. City of Berkeley*, 655 F. Supp. 820, 827 (N.D. Cal. 1987) (same). Accordingly, the impairment standard in § 251(d)(2) cannot be interpreted to require that unavailability of a UNE makes it impossible for any CLEC to survive. The existence of a negative impact on CLECs’ ability to offer services ubiquitously and quickly to all customers is ample to meet the statutory standard and further the statutory purposes.

Necessity: CLEC access to a proprietary element is “necessary” if, as a practical matter taking into account the availability or unavailability of the element outside the incumbent’s network, the inability to get the element from the ILEC would significantly

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impair or obstruct CLECs' ability to compete against the ILEC for any group of customers in any geographic area by giving the ILEC a competitive advantage that CLECs cannot otherwise overcome on a timely basis. This definition means that the unavailability of a UNE need not completely preclude CLECs from competing but that its availability would materially facilitate CLECs' ability to offer competitive services.

This definition maintains an appropriate distinction between the standards in subsections 251(d)(2)(A) and 251(d)(2)(B). *See IUB v. FCC*, 120 F.3d at 813 n.33 (FCC should not "inappropriately conflate" requirements). This "necessity" standard entails a somewhat more significant degree of impairment or obstruction to justify unbundled access to proprietary elements than the "impairment" standard demands for non-proprietary elements. The difference is one of degree, not kind, and the focus of the inquiry in each case is on whether CLECs can effectively and efficiently provide competing services without unbundled access to the element.

This definition is supported by judicial decisions interpreting the term "necessary" and is well within the FCC's discretion to interpret the term consistent with its usual meaning, its context, and the statutory purposes. As the Supreme Court long ago stated, the term "necessary" is susceptible to different meanings and should therefore be defined with regard to its statutory or constitutional context. *M'Culloch v. Maryland*, 17 U.S. (4 Wheat.) 316, 414-15 (1819); *see Armour & Co. v. Wantock*, 323 U.S. 126, 129-30 (1944) (rejecting rigid reading of term "necessary"). Given the wide range of legal uses of the

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term, judicial interpretations of “necessary” have run the gamut from “convenient” or “useful” to “essential” to “indispensable.” Courts generally interpret the term liberally. *E.g.*, *M’Culloch*, 17 U.S. at 413-14 (“To employ the means necessary to an end, is generally understood as employing any means calculated to produce the end, and not as being confined to those single means, without which the end would be entirely unattainable.”); *Commissioner v. Tellier*, 383 U.S. 687, 1120 (1966) (“ordinary” and “necessary” expenses need only be “appropriate and helpful”); *United States v. Hernandez-Urista*, 9 F.3d 82, 83-84 (10th Cir. 1993) (subpoena is “necessary” if witness’ presence is “relevant, material, and useful”); *see Federal Labor Relations Authority v. United States Dep’t of Defense*, 984 F.2d 370, 372-73 (10th Cir. 1993) (deferring, under *Chevron*, to FLRA’s interpretation of “necessary for full and proper discussion . . . of collective bargaining” to include union’s right to employees’ home addresses, because communication with workers at home is important even though alternative avenues of communication exist); *Chrisner v. Complete Auto Transit, Inc.*, 645 F.2d 1251, 1261-62 (6th Cir. 1981) (business necessity defense to Title VII disparate impact claim need not show indispensability; “[r]ather, the practice must substantially promote the proficient operation of the business”). The Supreme Court has rejected the notion that “necessary” must be equated with “indispensable.” *Armour*, 323 U.S. at 130.

Finally, it is worth noting that although the “necessary” and “impair” provisions are sometimes discussed together, the “necessary” issue arises only in much more limited

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situations. Section 251(d)(2)(A) makes necessity an issue only with respect to “such network elements as are proprietary in nature.” Local Competition Order ¶ 282 (necessity standard applies to “proprietary elements (e.g., elements with proprietary protocols or elements containing proprietary information)”; *id.* ¶ 283 (necessity standard applies when “the element is proprietary, or contains proprietary information that will be revealed if the element is provided on an unbundled basis”). Few elements are proprietary or have proprietary aspects. *See* Local Competition Order ¶ 388 (“loop elements are, in general, not proprietary in nature”), ¶ 393 (“no evidence of proprietary concerns with unbundled access to the NID”), ¶ 419 (“the vast majority of parties that discuss unbundled local switching do not raise proprietary concerns with the unbundling or either basic local switching or vertical switching features”), ¶ 446 (“the record provides no basis for withholding these [interoffice] facilities from competitors based on proprietary considerations”). Despite their notable willingness to advocate positions with at best marginal legal or factual merit, the ILECs have not claimed in any of the dozens of § 252 cases in district courts around the country that these elements are in any way proprietary.

The FCC’s order and regulations implementing the 1996 Act define the term “proprietary” in a reasonable way. Notably, none of the ILECs challenged the FCC’s existing definition before either the Eighth Circuit or the Supreme Court, and its relatively narrow meaning is settled. Under the regulations, the necessity standard

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applies when a “network element is proprietary, or contains proprietary information that will be revealed if the network element is provided on an unbundled basis.” 47 C.F.R.

§ 51.319(b)(1)(i). More specifically, the FCC has explained that an element is less likely to be proprietary if it already is offered on an unbundled basis, *id.* ¶¶ 446, 490, or if it adheres to industry-wide, rather than company-specific, standards, *id.* ¶¶ 481, 490. An element is more likely to be proprietary if it utilizes technology specially tailored to the incumbent’s individual network. *Id.* ¶ 497 n.1157. Even if an element contains proprietary information, new entrants may be able to gain access to the necessary features or functions without gaining access to the proprietary information (*e.g.*, when the new entrant can use a system without receiving direct access to the incumbent’s proprietary method of data entry). Local Competition Order ¶¶ 284, 498; *see also id.* ¶ 481 n.1120.

III. AN AMENDED REGULATION

Section 51.319, which the Supreme Court vacated, simply lists the elements that the FCC initially found should be unbundled, and it does not incorporate any definitions of “impair” and “necessary.” The regulation that does incorporate these definitions is § 51.317, which establishes the standards that state commissions should use in defining UNEs in addition to those listed in § 51.319. The following amended § 51.317 incorporates the approach described above:

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§ 51.317 Standards for identifying network elements to be made available.

(a) In determining what network elements should be made available for purposes of section 251(c)(3) of the Act beyond those identified in § 51.319, a state commission shall consider:

(1) whether, taking into account the availability or unavailability of the network element outside the incumbent's network, the failure of the incumbent LEC to provide access to the network element would materially diminish the ability of any requesting carrier to provide the services it seeks to offer by diminishing the ability of CLECs promptly to provide existing or new services to any class of customers in any geographic area, or by providing a significant competitive advantage to the ILEC. In making this determination, the state commission shall take into account, at a minimum, the following factors:

(i) whether the network element is currently available in commercially reasonable and sufficient quantity from at least one other source;

(ii) whether any requesting carrier could achieve reasonable economies of scale, scope, connectivity, or density if it does not obtain the network element from the incumbent LEC, taking into account the total cost of constructing and operating a network;

(iii) whether any requesting carrier can provide service efficiently and profitably if it does not obtain the network element from the incumbent LEC;

(iv) whether unavailability of the network element from the incumbent LEC would affect the ability of any requesting carrier to provide any feature or capability in a way that materially diminishes its ability to compete in the local market; and

(v) whether unavailability of the network element from the incumbent LEC would materially delay any requesting carrier's ability to provide any local service to any class of customers or geographic area;

(2) (i) whether the network element is proprietary, or contains proprietary information that will be revealed if the network element is provided on an unbundled basis; and

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(ii) if the network element is proprietary or contains proprietary information that will be revealed if the network element is provided on an unbundled basis, whether the failure of the incumbent LEC to provide access to the network element would significantly impair or obstruct the ability of the requesting carrier, taking into account the availability or unavailability of the element outside the incumbent's network, to compete for any group of customers in any geographic area by giving the incumbent LEC a competitive advantage that requesting carrier cannot otherwise overcome on a timely basis; and

(3) whether the availability of the network element on an unbundled basis would further the interest of consumers in the prompt introduction of ubiquitous and efficient competition, and the interest in efficient implementation of section 251(c)(3) that avoids intrusive, costly, and protracted regulatory proceedings and administrative burdens.

(b) If a state commission determines pursuant to subsection (a) that a network element should be made available for purposes of section 251(c)(3) of the Act, the incumbent LEC shall provide access to the element on an unbundled basis, except that if the incumbent LEC demonstrates that it is technically infeasible to provide unbundled access to the network element at a particular point then the incumbent LEC need not provide access to the element on an unbundled basis at that point.

IV. APPLICATION OF THESE STANDARDS TO CORE ELEMENTS

Each of the seven core network elements defined in vacated § 51.319 satisfies a stricter impairment standard that is consistent with the Supreme Court's decision and furthers the objectives of the Act. That is not surprising because the national rules established in the FCC's Local Competition Order defined only the minimum set of critical network elements necessary to permit local competition to succeed throughout the country, leaving it to state commissions to determine whether additional important elements should be unbundled. One set of network elements not addressed in the Local

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Competition Order is the elements required for advanced services. This section addresses the seven elements in § 51.319 plus core network elements needed for the provision of advanced services.¹ The discussion does not address additional elements that the Commission or state commissions should determine must be unbundled pursuant to national or state rules.

It must be noted that while lack of access to any of these core UNEs will impair CLECs' ability to provide telecommunications services, two-and-a-half years' experience of attempted entry into local markets demonstrates that it is not sufficient to identify the UNEs; it also is essential to define the UNEs in a manner that ensures meaningful access. Therefore one important aspect of the upcoming rulemaking will be to review the existing UNE definitions and, where appropriate, refine them to better reflect actual CLEC needs.

In particular, given the rapid technological change in the telecommunications industry, UNE definitions must be flexible enough to accommodate new technologies and the variety of entry strategies different CLECs will employ using these new technologies. For example, at its most basic level, the loop is the transmission path from the customer demarcation point to a point at which carriers can get access to the loop (the "access point"). The access point is the point where the loop is or can be connected to other network elements, such as switching or interoffice transport, and thus will differ

¹ The loop-related core UNEs required to provide advanced services are included in the general discussion of UNE loops.

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depending on such variables as the intended use of the loop (and hence the bandwidth capacity needed) and the loop technology (e.g., all-copper or digital loop carrier (DLC)). Since different CLECs will have different entry strategies using different technologies, it would be inappropriate to define a loop in a fashion that does not allow for alternative access points.

Similarly, technological changes over the past two-and-a-half years that are now being embedded in both ILEC and CLEC networks have shifted the locations in networks where certain functions can be efficiently performed and such changes allow technically feasible, efficient access to UNEs to occur at many more points in the ILEC networks. Thus, today CLECs can deploy facilities that perform some of the functions previously performed by ILEC network elements and can seek from the ILEC only those functions that they need without disrupting the ILEC network or placing an additional burden on the ILEC. In order to eliminate impediments to CLEC deployment of new technologies and to facilitate broader deployment of CLEC facilities, the upcoming proceeding on § 319 must review the UNE definitions in light of the greater ability to perform sub-element unbundling.

This paper will not provide detailed definitions; that level of detail will be provided in MCI WorldCom's comments in the Rule 319 proceeding.

Loops. For the overwhelming majority of customers, the loop is a natural monopoly; for all but a tiny fraction of customers, it is economically infeasible (and

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would represent inefficient use of society's resources) for new entrants to build out a second line to the customer's premise. The loop is the single most expensive and time-consuming element in local networks for CLECs to duplicate on a pervasive scale. Nor are there alternative sources of loops available on a commercial wholesale basis. In those rare places where another carrier has built out loops, that carrier has neither the incentive nor the legal requirement to make that loop available to others at cost-based rates with associated OSS. Yet CLECs need access to unbundled loops to reach their customers of both traditional and advanced services.

The lack of access to ILEC loops would not simply impair the ability of CLECs to provide telecommunications services; it would foreclose their ability to reach broad categories of customers, such as residential and small business customers. That is why Congress had the foresight to include access to unbundled loops as a checklist item in § 271 of the Act and why the legislative history of the Act identifies the loop as an example of a UNE. The significant public policy issue confronting the Commission is not whether ILECs must provide unbundled loops to CLECs, but rather what loop facilities must be made available pursuant to § 251(c)(3) and how these can be connected to other elements. We will address these issues in detail in our comments in the anticipated Rule 319 proceeding, but it is worth noting that to provide the flexibility needed to handle different technologies and different uses, it will be necessary to define an array of loop-related elements needed for the provision of traditional and/or advanced services. These must

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allow the CLECs to deploy the latest technology without requiring them to lease redundant elements from the ILECs.

NIDs. The network interface device, or NID, is defined in the vacated rule as the interface between the loop and the inside wiring of the customer premises. This definition must be modified to recognize the situation in which an ILEC (rather than the customer or landlord) provides premise wiring (“house and riser cable” in multi-tenant buildings and “interbuilding cable” in campuses and industrial parks) that comes between the NID and customer premises equipment. The underlying CLEC need for the NID remains. The cost of the physical NID, itself, is very small relative to the cost of installing a NID. In most cases, the CLEC will be using the unbundled ILEC loop. It would be prohibitively expensive for new entrants to dispatch technicians to each and every customer location to install a new NID. It also would be wasteful to impose on new entrants the costs both of disconnecting loops and NIDs that are normally combined in ILEC networks and of installing new, unnecessary, and redundant NIDs. *See AT&T v. IUB*, 1999 WL 24568 at *12-13 (discussing § 51.315(b)). Thus, while NIDs may be available from manufacturers, it is extremely unlikely that it would be viable for CLECs to deploy their own NIDs when they use ILEC UNE loops.

In the relatively rare situations in which CLECs deploy their own loops, and thus site visits are required by CLEC technicians in any event, the issue is less one of cost than of the CLEC’s ability to readily gain access to the customer premises equipment (CPE).

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CLEC access to CPE can occur in one of three ways: (1) the CLEC installs a NID that connects to the ILEC NID (which in turn connects to the premise wiring or directly with the CPE); (2) the CLEC installs a NID that connects directly to the premise wiring or the CPE; or (3) the CLEC connects its loop directly to the ILEC NID (which in turn connects directly to the premise wiring or CPE) without installing its own NID. Unless the CLEC captures all the business in a single or multi-tenant building, the ILEC will maintain its NID to continue to connect to CPE, and in most of these situations the CLEC can simply install its NID on the same plywood panel to which the ILEC's NID is attached and connect to the ILEC NID or directly to the premise wiring or the CPE. Some ILECs have refused to allow CLECs to connect their loops directly to the ILEC NID. When this occurs, if the CLEC is permitted to install its own NID next to the ILEC NID and then make a NID-to-NID connection, the CLEC's ability to provide service may not be impaired. But if the landlord were to deny the CLEC permission to install its NID next to the ILEC NID, the CLEC would have no choice but to connect its loops directly to the ILEC NID in order to provide service and the ILEC must be required to allow the CLEC to do so. As MCI WorldCom shall discuss in its comments in the Rule 319 proceeding, an important outstanding issue is how to ensure access to premise wiring and customer-owned equipment in those situations where the landlord is reluctant to provide access to multiple providers or where the premise wiring, *de facto* if not *de jure*, is owned or controlled by the ILEC rather than by the customer.

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Switching. ILECs have more than 20,000 local switches in place, while CLECs have deployed fewer than 400 switches as of the end of 1998. Requiring CLECs to deploy all the switches needed to provide ubiquitous service in competition with ILECs would significantly delay competition by imposing impossible financial and logistical burdens on the CLECs.² Most significantly, without access to ILEC switches, CLECs cannot take practical advantage of unbundled loops for those customers served by ILEC end offices where collocation is unavailable or economically infeasible. This represents a very substantial portion of customers, especially in the residential market. Congress recognized CLECs' need for access to unbundled switching to provide ubiquitous residential service when it included switching in the § 271 checklist and when it identified switching as a UNE in the legislative history of the Act.

There are substantial economies of scale associated with switching. Typically, a threshold level of market penetration is needed for a CLEC to justify deployment of a switch. If CLECs are not able to build market share by serving customers with unbundled ILEC switching prior to deploying their own switches, then the business case

² By contrast, as soon as MCI WorldCom gained access to the switching and transport UNEs through use of the UNE platform in New York, we began to offer residential service throughout Bell Atlantic's service area in that state. Without access to the switching UNE, we would not have the switching capability needed to serve large geographic areas in the Bell Atlantic serving area. Had we only the smaller footprint, our per unit costs would have been increased because we would have had to spread our fixed costs over fewer customers.

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for deploying a switch may be delayed or totally undermined. The same could happen even if switching were identified as a UNE but ILECs were able to challenge — and thus delay — CLEC requests for UNE switching on a case-by-case (end office-by-end office) basis. Even if it were financially viable to deploy switches for ubiquitous market coverage, CLECs can only deploy so many switches at a time, and once a decision to deploy is made it still takes almost a year to get a Class V switch up and running. In all of these situations, delays that would not occur if CLECs had access to unbundled ILEC switching deny customers the benefits of competition and provide ILECs the opportunity to lock in customers through strategic pricing, thereby discouraging entry.

The switching UNE must be defined properly to include the vertical switching features embedded in the switch. Without access to vertical features, CLECs would be impaired in several ways. They would suffer from inferior access to the switching functionality that the ILECs enjoy, and thus would not be able to provide all the services provided by the ILECs, such as call waiting or caller ID, which many customers view as necessary elements of service offerings. Moreover, restricted or costly access to these vertical features will undermine CLECs' ability to provide unique service packages and pricing plans.

Transport. An extensive transport network is required to provide ubiquitous service. At a minimum, CLECs will need transport links between all the ILEC central offices to which their customers' loops connect and their own switches (which often

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requires routing through several ILEC switches), and between their own switches.

Recognizing that CLECs would not be able to install their own ubiquitous transport network in the foreseeable future, Congress included nondiscriminatory CLEC access to ILEC transport in § 271 of the Act.

There are substantial economies of scale, scope, connectivity, and density in transport that the monopoly incumbent enjoys but that new entrants, in the absence of nondiscriminatory access to UNEs at TELRIC rates, cannot. TELRIC rates are based on demand levels that fully exploit scale economies. Transport costs will be significantly higher for a firm with market penetrations of the level that CLECs can expect.

The cost of constructing — or even leasing — dedicated facilities to end offices where a new entrant has few customers is prohibitive, but shared transport permits CLECs to take advantage of some of the ILEC's economies of scale, scope, connectivity, and density. Until a threshold level of traffic is achieved — and in some locations that threshold level may never be achieved — shared transport is more efficient than dedicated transport. There are virtually no competitive alternatives to ILEC shared transport. The ILEC, in its historic position as the monopoly provider of local exchange and exchange access service, has much better information on the traffic flows (and hence transport needs) of all the carriers in a market than will any other carrier, and also frequently enjoys superior access to rights of way. Moreover, the ILEC will not want or need to share CLEC facilities, and total CLEC traffic may not be sufficient to justify

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investment by even one CLEC in a shared facility. Thus, the risk associated with providing shared access is far greater for other carriers than for the ILEC, and certainly for the foreseeable future there are not likely to be alternatives to ILEC provision of shared transport. The Commission has long recognized the need for all carriers to have the same access to shared transport for interexchange competition to develop, and the same is true for local competition. Even where there is sufficient demand along a particular route for dedicated transport to be cost effective for some traffic, shared transport provides the most efficient way to handle peak traffic (overflow) loads. ILECs themselves optimize their traffic transport by determining the optimal size of their dedicated trunks and sending peak traffic over shared facilities. If CLECs were denied the same access to shared transport for their peak traffic overflow, they would be placed at a significant cost disadvantage that would impair their ability to competitively provide services they seek to offer.

Even as the public switched network evolves to incorporate the facilities of new entrants as well as incumbents, the location of transport links will largely be determined by the location of incumbent nodes (switches), and it will be the incumbent who will be in the best position to provide dedicated transport facilities between these nodes. The incumbent will enjoy historical access to rights of way not always available to others, or not available on equally favorable terms. Even if CLECs win enough traffic to support dedicated transport, they will not be able to build out their own transport facilities to

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provide ubiquitous service in a few years. Despite ILEC claims of competitive alternatives, there currently are no competitive alternatives for most dedicated transport routes. According to U S West data for cities in which it alleges competitive alternatives exist, CLECs have facilities to only 12 percent of special access locations in Seattle, and 6 percent in Phoenix. Buildout of CLEC transport networks is capital intensive and increases substantially with distance from the CLEC fiber ring. Buildout costs to each additional ILEC central office are in the millions of dollars.

Alternative providers have focused their investments on one type of link — the “entrance facility” between a CLEC switch and an ILEC end office (serving wire center). There are very few alternatives available for the “channel mileage” or “interoffice mileage” link between the ILEC serving wire center and the ILEC end office serving a CLEC customer.

Given this underlying cost structure, if CLECs are given access to ILEC transport only on a case-by-case basis that gives the ILECs the opportunity to challenge and delay access to facilities, the ability of CLECs to provide ubiquitous service, especially to residential customers, will be impaired.

Signaling Systems and Database Access. Signaling links, signaling link transport, and signaling transfer points (STPs) are essential elements of the SS7 network that are used to control the call processing flow of many different types of calls. The SS7 network is the global standard for telecommunications defined by the International

MCI WorldCom

Telecommunications Union and modified by the ANSI standards process. The standard defines the procedures and protocol by which network elements in the public switched telephone network exchange information over a digital signaling network to effect wireless and wireline call setup, routing, and control.

For facilities-based carriers it is absolutely imperative that CLECs be allowed to interconnect using these elements in order to provide end-to-end operability needed to provide services comparable to the ILECs. There is only one SS7 network to which all facilities-based ILECs, CLECs, and IXC's interconnect. Non-facilities-based carriers or carriers purchasing the switching UNE from the ILEC have no option but to obtain these signaling elements from the ILEC because ILEC switches are interconnected with only their own signaling networks and cannot interoperate with multiple signaling networks except through their own signaling network's mediation. Thus, CLECs could not use a substitute signaling capability under such circumstances even if they wanted to. Some CLECs (though not MCI WorldCom, which interconnects through MCI Telecommunications) also need to lease SS7 transport and SS7 ports.

Call-related databases (or Service Control Points, SCPs) are SS7 databases that are used for billing and collection, or in the transmission, routing, or other transmission of a telecommunications service. These databases include the Line Information Data Base (LIDB), the Toll Free Number Database, and the Customer Name and the Address (CNA) Database. Nondiscriminatory access to these databases is especially critical for CLECs

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that purchase unbundled switching from the ILEC. As with the ILEC signaling networks, ILEC switches are programmed to interoperate only with the ILEC's SS7 databases.

Again, CLECs simply have no alternative to the ILEC's databases.

Access to the Advanced Intelligent Network (AIN) facilities — ILEC Service Creation Environment (SCE) and Service Management System (SMS) — is critical if the CLECs are to develop and deploy new and innovative services. These services require extensive testing to ensure network interoperability and the testing cannot be duplicated outside the ILEC SCE environment.

MCI WorldCom shall provide greater detail on the signaling and database access required in its comments in the Rule 319 proceeding.

OSS. The Commission's finding requiring the unbundling of OSS was cited by the Supreme Court as "supported by a higher standard." *AT&T v. IUB*, 1999 WL 24568 at *10-11 (citing Local Competition Order ¶¶ 521-522). The Commission "consistently has found that nondiscriminatory access to these systems, databases, and personnel is integral to the ability of competing carriers to enter the local exchange market and compete with the incumbent LEC." Second Louisiana § 271 Order ¶ 83. Competitors today still are unable to offer services because they cannot efficiently, reliably, and consistently communicate with the ILECs' own OSS for pre-ordering, ordering, provisioning, billing, and repairing network elements and services.

MCI WorldCom

These deficiencies create delays, diminish service quality, and materially raise CLEC costs. In some cases, the costs to MCI WorldCom of acquiring new local customers are substantially increased because of our inability to access the basic customer information in ILEC databases to perform the pre-ordering function. In other situations, while access is technically possible, CLEC costs are raised by ILEC decisions to create proprietary interfaces rather than developing standardized interfaces, thus forcing CLECs to spend millions of dollars upfront in the development of separate interfaces for each ILEC.

There is no substitute for the ILECs' own OSS, and CLECs are entitled to access to this network element under any conceivable "impair" or "necessary" standard. Indeed, CLECs are entitled to access to OSS not only as a UNE in and of itself but also to make access to other UNEs possible. The public policy issue facing the Commission is not whether lack of access to ILEC OSS impairs the ability of CLECs to provide telecommunications services, but rather how to define in detail what access to their OSS systems the ILECs must provide and the standards the ILECs must meet to satisfy their statutory responsibilities. MCI WorldCom will provide that detail in its comments in the Rule 319 proceeding.

OS/DA. Customers consider quality operator and directory assistance services integral to the telecommunications services they receive. Without nondiscriminatory access to OS/DA databases, no carrier could offer facilities-based competitive local

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service, because their customers would not be able to make use of standard operator and directory assistance functions. The ILECs alone own the databases that are at the heart of these services; they alone, as the historical monopoly provider, have the ability to collect information contained in such databases. Any third party that has this information must rely on the ILEC as the primary source, typically relying on white pages listings. There are no alternatives to the ILECs' DA/OS databases that are of equal quality.

To provide customers operator and directory assistance services where ILEC local switching is utilized by a CLEC, the CLEC must establish operator centers as well as an economical means of routing customers' calls from the appropriate ILEC end office to the CLEC operator center. The only way to do this is with the call routing functionality in the ILEC switch.

It also is essential that the subscriber records used to provide emergency 911 services be treated as a UNE because an ILEC's dominant position in the provision of local exchange services enables it to provide the most comprehensive, accurate, and up-to-date emergency listings. Unavailability of these records as a UNE would not only impair CLECs' ability to provide reliable 911 services but, more importantly, would jeopardize the lives and health of individuals as a result.

DSLAMs. DSLAMs are the equipment required to provide advanced services over existing copper loop plant. DSLAMs, themselves, are not exorbitantly expensive. For about \$8,000 to \$12,000, a CLEC can purchase a DSLAM off-the-shelf that is

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capable of serving 200 to 300 lines. But that DSLAM must be placed in a collocated space in the ILEC end office or remote terminal serving the CLEC's DSL customer, and the collocation costs can be substantial. In many circumstances it is not possible or viable for a CLEC to install its own DSLAM because no collocation space is available at the ILEC end office or remote terminal, or because the revenues that would be generated are insufficient to justify the costs of collocation, as well as the costs of purchasing and installing the DSLAM. These costs are especially likely to be prohibitive in rural areas. Unless ILECs are required to make their DSLAMs available as UNEs, CLECs will be unable to provide ubiquitous DSL service, and notably will not be able to serve most rural areas. In fact, given the small demand that can be expected in rural central offices relative to the capacity and price of DSLAMs, the most efficient use of equipment is to have the ILEC share the cost burden — and scale economies — by offering DSLAMs to all carriers as a UNE.